

A Few Conceptual Proposals of the “New” Materialism

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Abstract

The explosive evolution of scientific research and discoveries in recent decades has brought back into question the philosophical option of materialism, which is being reconsidered from the new positions of the current research. The functional structure of matter, the validity of the linear causal principle, the morphological differences between cause and effect, the potentiality of active matter and singularity as a theme of differential calculus, challenging the uniqueness of the active form and of the matter only as a passive entity are a few topics evoked in this text, understood as analytical openings and not as simple conceptual solutions.

Keywords: *active matter, nonlinear causality, relativisation, singularity, potentiality of the matter, ontic rejection of the active form.*

Reconsideration of the morphological functionality of the matter.

The conceptual duality between immanence and transcendence is one of the most long-lasting metaphysical structures proposed by the universal philosophical thought. On this basis of the general-ontological bipolarity it was consolidated the duality between matter and spirit, reformulated in terms of the theological assumption as the terminological pair between corporeality and soul. From these stabilizations at the beginning of ontological and gnoseological analyzes, the idea of the existence of a constant universal relationship meant to support the entire cosmic evolution, a relationship identified by the concept of causality, was postulated. Thus, from this perspective, the law of causality has the privilege of explanatory supremacy over the endless range of natural phenomena, including over the dimension of living and thinking of the human being. If Plato proposed a crystallization of transcendent-immanent bipolarity, by describing the two distinct existential frameworks, the world of Perfect Ideas and the world of imperfect copies, (Platon, 1996, p. 93) the size of the cavern of materiality and that of the

spiritual spheres above it, Aristotle insisted on the idea of causality as the universal explanatory principle, every ontic active occurrence being conceived as a cause for an effect but also an effect of another cause. The principle of transcendence becomes one of action, of a general inaugural cause that can no longer be a result, an effect of another cause. Thus, the regression to infinity that could be conceptually uncontrollable finds its annihilating reply in the postulate of a primary cause, a motionless engine that generates the whole chain of universal dynamics. This motionless engine identified by Aristotle as the principle of divine order and postulated, (Aristotel, 2000, p. 31) subsequently, by Thomas Aquinas, as the Creator proposed by the Christian faith, had the role of primordial impulse but also of absolute form capable of informing any layer of matter as a created substance (Aquino, 1997, p. 136). Through the act of in-forming and generating the transcendent-timeless origin of the mobility of the matter, the neo-Aristotelian tradition tried to explain the organization of the whole universe on the basis of stable and irreversible laws that do not allow indeterminable relativizations and modulations (DeLanda, 2017). According to this perspective, the cosmos was administered physically but also spiritually, strictly observing the principle of causality and the proportion between the nature of the cause and that of the effect. In this sense, Leibniz proposed an image of the universe in which the pre-established harmony rules, the evil being insular in an endless complexity of the general good guaranteed by the divine order (Leibniz, 1997, p. 93). A redirection of analytical attention from transcendent principles or from active to immanent forms and the contents of matter was manifested, as an inaugural gesture for modern thought, in Baruch Spinoza's pantheistic metaphysics. His perspectives were later resumed in the open framework by the new knowledge offered by current physics research, being important to rethink the concept of matter and its specific features. The Newtonian view in which the matter strictly follows the imperatives of inviolable universal abstract laws has undergone severe changes, especially with the understanding of Einstein's relativity as a key concept for the entire complexity of the cosmos. At the same time, the relationship between form and content as well as that between cause and effect were not rejected or defined as false, but they underwent large-scale conceptual recalibrating and repositioning. In this context, the matter began to be seen and explored as a constant physical and existential dynamic, endowed with multiple capacities of mobility and transformation, of tendencies and multiple structural options. Thus, the transition from the concept of passive matter to that of active matter was made. Passive matter was recognized only as having the ability to take certain impulses and forms. On the other hand, active matter was understood as a physical entity

capable of morphological transitions and developments. Such transformations were conceived as processes triggered from within the structure of the active matter, not from an exterior, possibly transcendent. This new conceptual perspective does not aim at denying the possibility of the existence of transcendent operative factors but insists on the exceptional, as yet undiscovered capabilities and potentialities of the matter. Defining it as an amorphous element that only receives information and conforms to it proves to be far too simplistic in the new conditions opened by scientific and technological progress.

In the current context, there is no longer any discussion of a materialism conceived as a single current, a single direction of epistemological thinking. On the contrary, it aims to develop a wide range of materialisms that sum up multiple conceptual and empirical reports of the concept of matter in creative and research spheres as diverse as the arts or the social sciences (Fox & Alldred, 2019). It cannot be said that an overcoming or even annulment of the classical perspectives of materialism thought of as an independent philosophical direction is intended, but we are witnessing the approach of overcoming the dualistic, bipolar vision in which matter was positioned in opposition to other concepts such as spirit, life, society or humanity. The subject is invested with new capabilities and it is desired to recognize some properties that it would have in spite of the old definitions and characterizations of its substance and primary formations. The new theses of post-humanist and post-anthropocentric orientation, which support the re-assumption of another perspective on nature, rely, in essence, on overcoming the dual relationship between nature and culture by replacing anthropocentrism with ecocentrism. Nature and, therefore, implicitly matter, too, become central elements from which one can discuss and re-evaluate the destiny and progress of all mankind. Correlated with the revaluation of the concept of nature from the perspective of the new materialist directions, there is also the need for a different understanding of the cultural, social and historical reality of the first peoples and of the indigenous nations (Sundberg, 2014, pp. 33-47; Todd, 2016, pp. 4-22). At the same time, the physical world is rethought beyond the tradition of matter-spirit bipolarity and becomes an active factor that decisively influences not only the technological or social evolution but also the psychological one at the level of the individual and the human community. The way in which this psychic mobility of man is marked by urban architecture or by tools offered by advanced technologies becomes central themes for the analytical discourse proposed by the new directions of materialist thinking. From this perspective, new directions are developed in applied ethics, ethics that bring into play issues such as those of nature protection or the deontologies of professions that operate directly with

natural resources (Bennett, 2010; Chen, 2012). Revaluing the concept of matter leads, therefore, to a possible ethical recalibration of the relation of modern man to the natural environment as well as to the hypostases of what has been called primitive civilizations. At the same time, the concept of matter has undergone substantial changes in approach, especially from quantum physics, which thus makes its decisive contribution to the rethinking of old materialism. Quantum dialectics proposes concepts such as three-matter as well as new physical principles such as the principle of antagonism. According to these new visions, it is proposed that there be a third matter, called matter T, a foundation and a primary source for the other two types of matter, namely biological and physical matter. They would return, in a dialectical circularity, to the T-type raw material and then be redesigned into a universal extension (Nicolescu, 2009, p. 64). It is observed how in this modern perspective proposed by quantum physics the concept of matter is redefined based on the identification of new properties and valences foreign to the conceptualizations of classical materialism. Despite appearances, the new approach to the concepts of materialism does not aim at restricting the area of research on matter and nature as a whole. On the contrary, it is intended to be an analytical opening that must develop multiple references to other areas of research and meditation on the world, the contributions of ontology, metaphysics and applied ethics being required in this context. From the new understanding of the matter, one can therefore revalue the axiomatic importance of interdisciplinarity in practice, the different fields of investigation of the world reaching a stage where they feel the need for gnoseological intercommunication. Thus, a new understanding of the current world does not seem to be possible, as Basarab Nicolescu pointed out, without assuming the unity of knowledge (Nicolescu, 2002, p. 232).

The conceptual proposals of Manuel DeLanda.

As one of the followers of this new orientation in the philosophy of science, Manuel DeLanda pointed out that the old explanatory concepts on matter and universal dynamics have undergone serious mutations due to the new scientific evidence (DeLanda, 2015). The issue of causality is one of the most revised conceptual spheres in this context. Practically, as DeLanda argues, causality has not been denied or rejected in its entirety as the decisive law of our physical and mental reality, but it has undergone a number of changes, improvements, and restrictions. These interventions revolve around rethinking the relationship between cause and effect. The two pillars can no longer be so close and

morphologically and substantially similar. The old idea that a cause of a certain intensity and structural profile will have an effect similar to its intensity and structure turns out to contain severe gaps. Thus, new research shows that the effect can be extremely relative, sometimes, in relation to the generating cause, it can be strongly different in form and content, but also in mobility and action, in relation to its precisely identified source. Often it is not about similarities, but about major differences that lead to a decisive differentiation and distance between the actual reality of the cause and that of the effect. Thus, linear causality was replaced, based on experimental findings, by nonlinear causality. It has been observed that if, for example, a certain weight is attached to a metal structure, it will undergo a change proportional to the value of that weight. In this case, the intensity of the cause may be similar in value to the intensity of the effect. But this principle of the reflexive balance between cause and effect is no longer present in the case of loading certain organic tissues with pressures and weights of different degrees. Such a tissue does not follow a causal linearity and its effects are not manifested in proportion to the evolution, amplification or diminution of the causal action. Thus, in the first phase of the experiment, the tissue behaves like the metal subjected to active weight but later involves a transformation that no longer observes the principle of linear causality. Initially it expands in proportion to the pressure exerted by the weight pressing on it, but later, although it is significantly reduced, it continues the process of expansion in an accelerated manner which is no longer justified by the action of that weight. Therefore there are organic materials but also metals of a special type of alloys that continue their process of structural change even after the cessation of the causative agent, so the proportion between the intensity of the cause and that of the effect is no longer respected, the material on which a certain type of active pressure manifesting a high degree of independence of internal transformations was exercised. Thus, were observed situations in which a certain material, at the beginning of the action process on it, respects the intensity of the causal agent after which it amplifies its process of structural changes even if this agent reduced or even canceled its coercive action. There have also been reversed cases in which, although the causal agent gradually amplifies its action on a matter, it initially respects the level of force induced and transformed in proportion to its increase, after a certain critical point of the reaction process, ceases to show the tendency to change regardless of the increase of the level of action on it, there is a stop or a considerable decrease of the structural metamorphosis which manifests itself independently in relation to the intensification of the action of the initial causative agent. Thus, in these situations it is no longer possible to speak of a linear causality, the proportionality between

the intensity of the cause and that of the effect being neglected. Of course, the causal relationship does not disappear but it is put in other parameters of operationality, being obvious that the matter contains formulas of manifestation that cannot fall under the principle of a proportional-linear causality. On the contrary, the dynamics of these cause-and-effect relationships are found to be non-linear, in oscillating or curved formats. The radical determinism that proposed the same notion to equate the properties and energy of cause and effect gives rise, in the new context, to a relativized determinism, in which the nature of the cause cannot be the same as the nature of the effect. Therefore, the principle that upholds the proportionality between the dynamic energy of cause and that of effect cannot always be recognized as sovereign. The relativization of determinism and the cause-effect relationship support the image of a universe in which the eruption of novelty is an ontological constant and the classical postulate of a primary cause, a generator that determines demiurgically without being created in its turn, is not completely denied, but only re-evaluated and subject to new criteria of interpretation. The relationship between cause and effect is also repositioned in terms of the uniqueness of the two poles. Thus, the analysis of recent biological research, as exemplified by DeLanda, indicates that several causes can generate the same effect based on a cyclic metabolism, loops that close certain functional events inside an organism, so that it is no longer possible to discuss about a linearity of determinations, but only sequences, links that have their own exclusive circularity. They are structurally, morphologically and energetically related but they do not observe the principle of linearity and potential equivalence, some of these structures being more diminished and others more intense within the same biological complex. It has also been found that there are systems in which, conversely, a single cause can generate several effects, different in nature and intensity. For example, the application of a growth hormone to the tops of a plant can accelerate its growth while the insertion of the same hormone at the roots of the same plant can cause a stagnation of its development.

Freedom of matter mobility, singularity and differential mathematical calculation.

These new observations have determined the conceptual re-assumption of the reality of matter now understood as an active matter endowed not only with properties but also with multiple capacities. A tool, such as a knife, has certain properties including shape, sharpness, stiffness, weight. But it also has the ability to cut. This capacity is activated in relation to the action in which the knife can be

engaged and to the material subjected to cutting by the operator who actively handles the knife. Therefore, the properties of an object remain permanently active with the existence of that object, whereas its capabilities are located in a virtual area from which they can be projected in the act once the operation of its proper use starts. Gilles Deleuze (1995) resuming the discussion on the need to reform the understanding of the concept of matter and determinism will emphasize that the area of capabilities of an object, its virtual level and the one related to matter in general must be understood as a component part, as a segment and a hidden but real area of empirical totality (p. 384). Therefore, the capabilities of the knife make up its virtual component, the ontic perimeter of its functions that reside in its strength, according to the scholastic expression. From this perspective, four essential concepts come together: trend, capacity, structure and uniqueness. One of the classic examples of how matter is active and dynamic and involves decisive transformations is the transition of a substance from a liquid to a gaseous state and, conversely, from a gaseous to a liquid state. What is observed in the foreground of this finding is the force of the matter to tend to other forms, in fact, its multiple tendencies towards the adoption of other structural and functional formulas. But, as DeLande points out, the multitude of these tendencies seems to be controllable, exponentially limited to the context in which the substance is transformed. Instead, the number of capabilities of an object or substance seems uncontrollable and unlimited. The capabilities of a knife comprise an endless range of potential variables that can be activated depending on the operational context, being able to be used in an unlimited range of actions. Basically, according to this perspective, there are an endless series of possible scenarios for the use of matter, especially an object, and these scenarios represent the virtual dimension of that object or of matter in general. Each of these scenarios is an independent virtual structure that is defined by singularity, in essence they are singularities that move from strength to act. Singularities can be thought of as spaces or points stratified on the architecture of a scale of values, of a line on which are located, for example, the level of freezing or melting of water as references of the stage of transformation. Thus, in a container, water in solid state, resulting from the freezing process, belongs to a scenario, a singular structure and the water, from the same vessel, which reaches the liquid state, resulting from the melting process, belongs to another unique structure. The gradual evolution from one state to another involves a transition through a multitude of other intermediate stages which, in their turn, are structural singularities and formatting scenarios of that particular substance. The degrees of freedom of the transformations of the matter and the connection between them are the object of the differential mathematical calculation which deals with

rhythmicity, the rates of change and the speed or the slow degree of transiting of that matter from a certain structural point to another. Translated into geometry, this calculation becomes one of the possibility of space and the way of organization and distribution of singularities as possible scenarios of matter formation. The tendencies of cyclic stabilization of the transformation phenomena at the level of the matter were assumed and brought in the area of demonstration by mathematics in order to be later confirmed by empirical research. Thus, it has been found that, for example, soap bubbles or certain crystals tend to ensure a functional balance by showing the tendency to minimize surface energy which ensures an economy and a constant flow of tension in their composition. Also, the trade winds, the monsoon but also the lava masses that interact with the tectonic plates show the tendency of physical stabilization, of inscription in a balanced rhythmicity of periodic manifestations. In order to understand these complex phenomena, we must therefore take into account the conjunction between the processes of transition from qualitative to qualitative changes and the way of activating singularities understood as possible scenarios, located in strength and ready to become effective, to turn into acts.

A new understanding of matter.

This new perspective on the matter insists on its ability to generate its own forms and structures. They reject the idea of an external agent that would impose or generate the content of the primordial matter forms based on which the configurations of objects and beings in the extension of the entire universe could be constituted. Primary materialism therefore excluded any intervention of a transcendent factor, only the sphere of the immanent being accepted in the plane of the reality of existence. The new materialism, on the other hand, places greater emphasis on the energetic capacity of matter transposed into its constant mobilities and metamorphoses. Therefore, any formatting is rethought as an inner act of matter, an occurrence from this interiority to the outer ontic expressions. Thus, the replacement of the principle of causal linearity with that of relative causality comes to open new perspectives in understanding the universe of the matter as much more complex than was initially postulated by the conceptual simplicity of the separation between matter and spirit or between body and soul. The new analytical guidelines in this field of research do not aim to completely deny the contributions of traditional metaphysics in this regard, but only to point out that the issue of the matter and its functions is open to other investigations, with

knowledge and understanding of the laws and axioms governing the matter being far from reaching an integral universal truth.

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